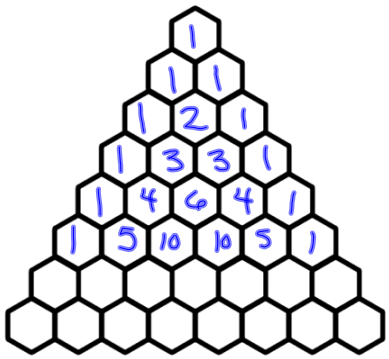
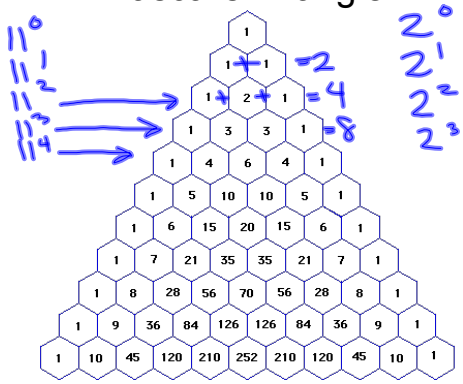
11.7 The Binomial Theorem

Pascal's Triangle



Pascal's Triangle

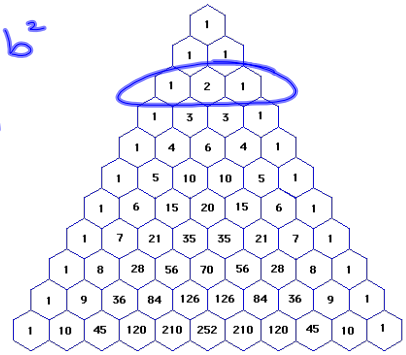


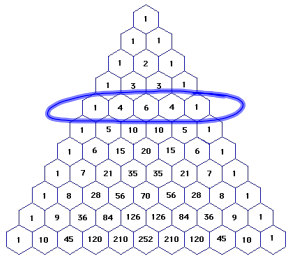
patterns

$(a+b)^2$

$a^2+2ab+b^2$

1 2 1

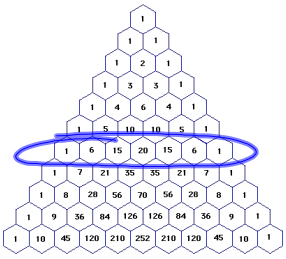




1 4 6 4 1

$(a + b)^4$

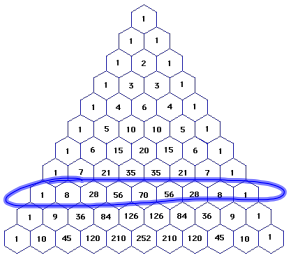
$a^4 + 4a^3b^1 + 6a^2b^2 + 4ab^3 + b^4$



1 6 15 20 15 6 1

$(x + y)^6$

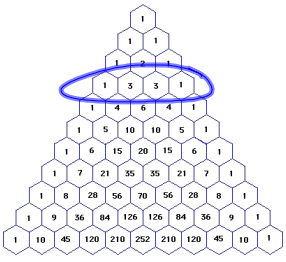
$x^6 + 6x^5y + 15x^4y^2 + 20x^3y^3 + 15x^2y^4 + 6xy^5 + y^6$



Alternate Signs

$(t - s)^8$

$t^8 - 8t^7s + 28t^6s^2 - 56t^5s^3 + 70t^4s^4 - 56t^3s^5 + 28t^2s^6 - 8ts^7 + s^8$

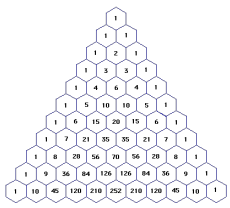


1 3 3 1

$(3x - y)^3$

$(3x)^3 - 3(3x)^2y + 3(3x)y^2 - y^3$

$27x^3 - 27x^2y + 9xy^2 - y^3$



$(2x + 3y)^5$

$32x^5 + 240x^4y + 720x^3y^2 + 1080x^2y^3 + 810xy^4 + 243y^5$

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19, 23, 24, 26, 28

Attachments

pascal.gsp